

CATALOG DOCUMENTATION  
NATIONAL COASTAL ASSESSMENT- NORTHEAST DATABASE  
YEAR 2002 STATIONS  
FISH TRAWL DATA; "FTRAWL"

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1. DATASET IDENTIFICATION

1.1 Title of Catalog document

National Coastal Assessment-Northeast Region Database  
Year 2002 Stations  
Fish Trawl Data by Station

1.2 Authors of the Catalog entry

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1.3 Catalog revision date

August 2007

1.4 Dataset name

FTRAWL

1.5 Task Group

National Coastal Assessment-Northeast

1.6 Data Set Identification Code

009

1.7 Version

001

1.8 Request for Acknowledgment

EMAP requests that all individuals who download EMAP data acknowledge the source of these data in any reports, papers, or presentations. If you publish these data, please include a statement similar to: "Some or all of the data described in this article were produced by the U. S. Environmental Protection Agency through its Environmental Monitoring and Assessment Program (EMAP)".

## 2. INVESTIGATOR INFORMATION (for full addresses see Section 13)

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## 3. DATASET ABSTRACT

### 3.1 Abstract of the Dataset

The FTRAWL data file contains the information regarding standard fish trawls conducted in 2002. The file specifies the type of standard trawl conducted; trawl speed and duration; latitude and longitude of beginning and end points of the trawl; and the number of fish species caught per trawl. One record is presented per trawl. The state of New York performed multiple standard trawls per station, so there can be up to four trawl records per station. For states other than New York, only one trawl record occurs per station.

### 3.2 Keywords for the Data Set

Trawl speed and duration, species abundance per trawl

## 4. OBJECTIVES AND INTRODUCTION

### 4.1 Program Objective

The National Coastal Assessment (NCA) is a national monitoring and assessment program with the primary goal of providing a consistent evaluation of the estuarine condition in U.S. estuaries. It is an initiative of the Environmental Monitoring and Assessment Program (EMAP), and is a partnership of several federal and state environmental agencies, including: EPA's Regions, Office of Research and Development, and Office of Water; state environmental protection agencies in the 24 marine coastal states and Puerto Rico; and the United States Geological Survey (USGS) and the National Oceanic and Atmospheric Agency (NOAA). The NCA program was initiated in 2000, and known as the Coastal 2000 Program.

Stations were randomly selected using EMAP's probabilistic sampling framework and were sampled once during a summer index period (June to October). A consistent suite of indicators was used to measure conditions in the water, sediment, and in benthic and fish communities. The measured data may be used by the states to meet their reporting requirements under the Clean Water Act, Section 305(b). The data will also be used to generate a series of national reports characterizing the condition of the Nation's estuaries.

#### 4.2 Data Set Objective

The objective of the FTRAWL data file is to report key parameters and the number of fish species caught per trawl during standard fish trawls conducted in 2002.

#### 4.3 Background Discussion

Refer to Section 4.4 for a list of dataset parameters. Additional information about selected parameters are discussed in this section.

The information collected in the fish surveys are reported in five data files. FTRAWL presents information regarding fish trawls and abundance of unique species per standard trawl. FISH\_CNT contains the number of fish per species per standard trawl. FISH\_LEN specifies fork length of individual fish and the frequency and location of pathologies observed in a ship-board inspection. CRAB\_LOB presents abundance and size data for crustaceans caught in standard trawls. TISSCHEM reports the concentrations of about 75 chemical analytes measured in composites samples of fish, lobsters or crabs collected at a station. The lookup table FISH\_TAX lists the common and scientific names of all fish identified in standard trawls.

The information reported in this file pertains to trawls conducted to characterize community structure (identification and abundance of fish species). If the standard trawl did not provide a sufficient number of fish for chemical analyses, additional nonstandard trawls were conducted. This file contains information about the standard files only.

The speed and duration of the fish trawls were not uniform in surveys conducted by different state organizations (see Section 5.1.12). Therefore fish community measures cannot be easily compared across all states.

If a standard length trawl could not be completed due to sea conditions or gear failure, the parameter FTRLFLAG is set to "unsuccessful". A blank FTRLFLAG indicates a successfully completed trawl.

NCA planners provide two alternate locations for a station location in the event that the original location cannot be sampled. The parameter STA\_ALT indicates whether the station location was the original site, first alternate, or second alternate—STA\_ALT = "A", "B", or "C", respectively. Also refer to discussion in the STATIONS metadata file regarding use of this parameter during analysis of the data.

Massachusetts did not participate in the NCA program in 2002. Rhode Island conducted fish trawls only in 2002, and collected physical water parameters in conjunction with the trawls. Connecticut collected all parameters, but at an abbreviated group of in-shore stations (stations in the Long Island Sound intended for sampling in 2002 were sampled in 2003).

#### 4.4 Summary of Data Set Parameters

\* denotes parameters that should be used as key fields when merging data files

*STATION	Station identifier
*STAT_ALT	Station location (A, B or C)
*EVNTDATE	Date of sampling event
*FTRLTYPE	Standard trawl type
FTRAWLID	Fish Trawl Id Number
	NCA      EMAP standard trawl
	CT      Connecticut fish survey trawl

	NH	New Hampshire modified standard
FTRLFLAG		Flag indicating unsuccessful trawl
FSPECNT		Total fish species in trawl (#)
FT_DUR		Duration of fish trawl (mmss)
FWTR_SPD		Trawl speed through water (knots)
BEG_LAT		Fish trawl beginning latitude (dec. deg)
BEG_LNG		Fish trawl beginning longitude (dec. deg)
END_LAT		Fish trawl end latitude (dec. deg)
END_LNG		Fish trawl end longitude (dec. deg)

## 5. DATA ACQUISITION AND PROCESSING METHODS

### 5.1 Data Acquisition / Field Sampling

The sample collection methods used by USEPA trained field crews will be described here. NCA Standard trawls are identified by TRWLTYPE=NCA. Any significant variations by other NCA partners are noted in Section 5.1.12.

#### 5.1.1 Sampling Objective

To collect a representative sample of fish at a station using a standard trawl. Additional nonstandard trawls were conducted when necessary to collect enough fish for chemical analyses.

#### 5.1.2 Sample Collection and Ship-Board Processing: Methods Summary

The EPA standard fish trawl was conducted using a funnel-shaped net that filters fish from the near bottom waters. Fish were herded into the net by ground wire and an overhanging panel. Standard trawls were planned to be  $10 \pm 2$  minutes in duration with a towing speed of 2-3 knots through the water against the prevailing current (1-3 knots relative to the bottom). In some cases, shorter or longer trawls were performed; the duration of the trawl is recorded in the variable FT\_DUR. An auxiliary, nonstandard trawl was performed to collect fish for tissue chemistry samples if an insufficient quantity were obtained in the standard trawl. Fish from the auxiliary trawls were used for chemical analyses only, and were not included in the standardized survey counts used to characterize the fish community structure.

All fish caught in a standard trawl were counted on board ship and immediately identified using the scientific and common names listed in the FISH\_TAX file. Fork lengths (carapace widths for crabs and lobster) in mm were measured on approximately the first 30 individuals of each species found at a station. A visual inspection for obvious signs of pathology was conducted on all fish measured for length. A subset of fish, crabs, or lobster were randomly chosen for chemical analysis. These test organisms were tagged and frozen individually, then combined into groups of 2-10 organisms of same species for later processing as composite samples. Each group was assigned a composite ID (SAMPLEID) and sent to the analytical lab for chemical analysis.

#### 5.1.3 Beginning Sampling Date

12 July 2002

#### 5.1.4 Ending Sampling Date

29 October 2002

#### 5.1.5 Sampling Platform

All program partners collected samples from various gasoline or diesel powered boats, 25 to 27 feet in length.

#### 5.1.6 Sampling Equipment

The trawl net consisted of a funnel-shaped high-rise sampling trawl. The net includes a 16 meter tow line, a chain sweep, 5 cm mesh wings, and a 2.5 cm cod end.

#### 5.1.7 Manufacturer of Sampling Equipment

Not applicable

#### 5.1.8 Key Variables

Not applicable

#### 5.1.9 Sample Collection: Calibration

The sampling gear does not require calibration.

#### 5.1.10 Sample Collection: Quality Control

A trawl was considered void if one or more of the following conditions occurred:

1. Trawl could not be completed because of boat malfunction, vessel traffic, or major disruption of gear
2. Boat speed exceeded the prescribed range
3. The cod-end became untied
4. The net was filled with mud or debris
5. A portion of the catch was lost prior to processing
6. The tow lines became separated
7. The net was torn in a way that significantly altered net efficiency

If a successful trawl could not be performed within 1½ hours, the site was considered unsampleable. Quality assurance audits were performed to verify the identification and measurement techniques of the field crew.

#### 5.1.11 Sample Collection: References

Strobel, C.J. 2000. Coastal 2000-Northeast Component: Field Operations Manual U. S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division, Narragansett, RI. EPA/620/R-00/002.

#### 5.1.12 Sample Collection: Alternate Methods

Trawl records with the following Trawl Codes did not follow NCA standards.

TRLTYPE	Name	Description
RI	Rhode Island Fish Survey Trawl	20 minutes standard

#### 5.2 Data Preparation and Sample Processing

All parameters reported in this file were measured aboard ship immediately following the trawl (see Section 5.1).

#### 5.2.1 Sample Processing Objective

Not applicable

#### 5.2.2 Sample Processing: Methods Summary

Not applicable

5.2.3 Sample Processing: Calibration  
Not applicable

5.2.4 Sample Processing: Quality Control  
Not applicable

5.2.5 Sample Processing: References  
Not applicable

5.2.6 Sample Processing: Alternate Methods  
Not applicable

## 6. DATA ANALYSIS AND MANIPULATIONS

6.1 Name of New or Modified Values  
Not applicable

6.2 Data Manipulation Description  
Not applicable

## 7. DATA DESCRIPTION

### 7.1 Description of Parameters

#### 7.1.1 Components of the Data Set

NAME	TYPE	LENGTH	LABEL
STATION	Char	9	Station Identifier
STAT_ALT	Char	1	Station Location (A,B or C)
EVNTDATE	Num	8	Event Date
FTRAWLID	Char	15	Fish Trawl ID Number
FTRLFLAG	Char	20	Status of Completed Fish Trawl
FTRLTYPE	Char	5	Fish Trawl Type (Standard/Nonstandard)
FSPECCNT	Num	4	Total Fish Species in Trawl (#)
FT_DUR	Char	10	Duration of Fish Trawl (mmss)
FWTR_SPD	Num	4	Trawl Speed through Water (knots)
BEG_LAT	Num	8	Fish Trawl Beginning Latitude (dd)
BEG_LNG	Num	8	Fish Trawl Beginning Longitude (dd)
END_LAT	Num	8	Fish Trawl End Latitude (dd)
END_LNG	Num	8	Fish Trawl End Longitude (dd)

7.1.2 Precision of Reported Values  
As displayed in Section 7.1.3 and 7.1.4.

#### 7.1.3 Minimum Value in Data set

Variable	Minimum Value
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EVNTDATE	7/12/02
FSPECCNT	0
FWTR_SPD	0.7
BEG_LAT	38.8007
BEG_LNG	-76.1629
END_LAT	38.8025
END_LNG	-76.1579

#### 7.1.4 Maximum Value in Data set

Variable	Maximum Value
EVNTDATE	10/20/02
FSPECCNT	16
FWTR_SPD	3
BEG_LAT	43.2167
BEG_LNG	-70.7162
END_LAT	43.2166
END_LNG	-70.7187

#### 7.2 Data Record Example

STATION	STAT_ALT	EVNTDATE	FTRLTYPE	FTRLFLAG	FSPECCNT
DE01-0002	A	9/18/01	EPA		2
DE01-0004	A	9/18/01	EPA	UNSUCCESSFUL	.
DE01-0006	A	9/17/01	EPA		4
DE01-0008	A	9/17/01	EPA		1
DE01-0010	A	9/19/01	EPA		1

STATION	STAT_ALT	EVNTDATE	FTRAWLID	FTRLFLAG	FTRLTYPE	FSPECCNT
DE02-0009	A	10/2/2002	DE02-0009-STRL	UNSUCCESSFUL	EPA	
DE02-0021	A	9/19/2002	DE02-0021-STRL	SUCCESSFUL	EPA	3
DE02-0033	A	9/11/2002	DE02-0033-STRL	UNSUCCESSFUL	EPA	

FT_DUR	FWTR_SPD	BEG_LAT	BEG_LNG	END_LAT	END_LNG
		38.9406	-75.339		
04:30	2	39.0235	-76.0686	39.0253	-76.065
10:00	2	39.1415	-75.1634	39.1385	-75.1743

### 8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude (Westernmost)  
-75.7737 decimal degrees

8.2 Maximum Longitude (Easternmost)  
-67.0939 decimal degrees

8.3 Minimum Latitude (Southernmost)  
38.4521 decimal degrees

8.4 Maximum Latitude (Northernmost)  
44.9456 decimal degrees

#### 8.5 Name of area or region

The National Coastal Assessment Northeast Region covers the northeastern US coastline from Maine to Delaware

### 9. QUALITY CONTROL AND QUALITY ASSURANCE

#### 9.1 Measurement Quality Objectives

#### 9.2 Data Quality Assurance Procedures

Inspection of the sampling gear for tears or improper assemblage is done at the beginning of every trawl event.

### 10. DATA ACCESS

#### 10.1 Data Access Procedures

Data can be downloaded from the web

<http://www.epa.gov/emap/nca/html/regions/index.html>

#### 10.2 Data Access Restrictions

None

#### 10.3 Data Access Contact Persons

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#### 10.4 Dataset Format

ASCII (CSV) and SAS Export files

#### 10.5 Information Concerning Anonymous FTP

Not available

#### 10.6 Information Concerning WWW

No gopher access, see Section 10.1 for WWW access

#### 10.7 EMAP CD-ROM Containing the Dataset

Data not available on CD-ROM

### 11. REFERENCES

Strobel, C.J. 2000. Environmental Monitoring and Assessment Program: Coastal 2000 - Northeast component: field operations manual. Narragansett (RI): U.S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division. EPA/620/R-00/002. 68 p.

U.S. EPA. 2001. National Coastal Assessment: Field Operations Manual. U.S. Environmental Protection Agency, Office of Research and Development, National Health and Environmental Effects Research Laboratory, Gulf Ecology Division, Gulf Breeze, FL. EPA/620/R-01/003. 72 p.

U.S. EPA. 2001. Environmental Monitoring and Assessment Program (EMAP): National Coastal Assessment Quality Assurance Project Plan 2001-2004. U.S.



Environmental Protection Agency, Office of Research and Development,  
National Health and Environmental Effects Research Laboratory, Gulf Ecology  
Division, Gulf Breeze, FL. EPA/620/R-01/002. 189 p.

## 12. TABLE OF ACRONYMS

AED	Atlantic Ecology Division
DE	Delaware
CSC	Computer Sciences Corporation
CT	Connecticut
EMAP	Environmental Monitoring and Assessment Program
EPA	Environmental Protection Agency
MA	Massachusetts
ME	Maine
mm	Millimeter
NCA	National Coastal Assessment
NH	New Hampshire
NHEERL	National Health and Environmental Effects Research Laboratory
NJ	New Jersey
NY	New York
NYC	New York City
PA	Pennsylvania
QA/QC	Quality Assurance/Quality Control
RI	Rhode Island
UNH	University of New Hampshire
WWW	World Wide Web

## 13. PERSONNEL INFORMATION

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